PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of	Docket No: Q88299
Daisuke OGURA	
Appln. No.: 10/537,699	Group Art Unit: 2618
Confirmation No.: 8563	Examiner: Philip Sobutka
Filed: June 6, 2005	

For: RADIO ACCESS NETWORK CONTROL METHOD AND RADIO ACCESS NETWORK

SUBMISSION OF APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. The statutory fee of $540.00 is being remitted. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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Date: January 24, 2011

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

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Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

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I. REAL PARTY IN INTEREST

NEC CORPORATION having a business address of 7-1, Shiba 5-chome Minato-ku Tokyo, JAPAN 108-8001 Japan is the real party in interest. The assignment was recorded on June 6, 2005 at reel/frame 017039/0729.

II. RELATED APPEALS AND INTERFERENCES

All prior or pending appeals, interferences or judicial proceedings, known to any inventors, any attorneys or agents who prepared or prosecuted the application on appeal and any other person who was substantively involved in the preparation of prosecution of the application on appeal, and that are related to, directly affect, or would be directly affected by, or have a bearing on the Board's decision in the appeal, are as follows:

A Notice of Appeal was filed on May 29, 2009. Prior to the submission of an Appeal Brief, prosecution was re-opened with the filing of a Request for Continued Examination and an Amendment under 37 C.F.R. § 1.114(c) on July 29, 2009. No Board decision was rendered.

III. STATUS OF CLAIMS

Claims 1, 2, 4-8, 11-13, 15-20, and 23-26 are pending, are rejected, and are the subject of this Appeal.

The Application was originally filed with claims 1-26. Claims 3, 9, 10, 14, 21, and 22 have been canceled.

IV. STATUS OF AMENDMENTS

The status of all amendments filed after final rejection is as follows:

With the Preliminary Amendment filed April 25, 2006, claims 1-26 were amended.

With the Amendment under 37 C.F.R. § 1.111 filed November 10, 2008, claims 1 and 12 were amended, and claims 3 and 14 were canceled.

With the Amendment under 37 C.F.R. § 1.114(c) filed July 29, 2009, claims 1, 2, 6-8, 11-13, 17-20, and 23-26 were amended, and claims 9, 10, 21, and 22 were canceled.

With the Amendment under 37 C.F.R. § 1.111 filed April 6, 2010, claims 1, 2, 4-8, 11, 12, and 23 were amended.

With the filing of this Brief, all amendments have been entered by the Examiner. No amendments have been filed subsequent to the final Office Action of June 25, 2010.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The claims subject to this Appeal are directed to a method of controlling a radio network controller and to a mobile communications system.

Independent claim 1 is directed to: "A method of controlling a radio network controller of a radio access network" (*see e.g.* Fig. 4; and page 11, line 5 to page 14, line 8). The radio network controller comprises: "a plurality of control plane controllers and a plurality of user plane controllers" (*see e.g.* RNC 4, CPE 41a and 41b, and UPE 42a-42c of Fig. 2; and page 7, lines 16-24). The method comprises: "implementing the plurality of user control plane controllers separate from said plurality of control plane controllers" (*see e.g.* page 7, lines 18-20); "logically subordinating each user plane controller to only one control plane controller" (*see e.g.* page 10, lines 1-21); "effecting transfer of status information between a user plane controller and a control plane controller other than the control plane controller to which the user plane controller is logically subordinate notwithstanding that the user plane controller is logically subordinate to another of said control plane controllers" (*see e.g.* operation 301 of Fig. 4 and page 11, lines 10-14[1]; operation 302 of Fig. 4 and page 11, lines 23-25[2]; operations 303 and 304

[1] Describing: U-plane controller 42a sets a status information table which is transmitted to C-plane controller 41a to which it belongs.

[2] Describing: C-plane controller 41a stores the status information from U-plane controller 42a.

of Fig. 4 and page 11 line 26-page 12, line 3[3]; page 12, lines 20-23; and operations 309-311 of Fig. 4 and page 13, lines 18-27[4]).

Independent claims 11 is directed to: "A method of controlling a radio network controller of a radio access network (*see e.g.* Fig. 4; and page 11, line 5 to page 14, line 8), wherein the radio network controller comprises at least a first control plane controller and a second control plane controller and a user plane controller (*see e.g.* RNC 4, CPE 41a and 41b, UPE 42a-42c of Fig. 2; and page 7, lines 16-24). The method comprises: "implementing said user plane controller separate from said first and second control plane controllers" (*see e.g.* page 7, lines 18-20); "logically subordinating said user plane controller to only said first control plane controller" (*see e.g.* page 10, lines 1-21); "effecting transfer of status information between the user plane controller and said second control plane controller notwithstanding that the user plane controller is logically subordinate to only said first control plane controller" (*see e.g.* operation 301 of Fig. 4 and page 11, lines 10-14; operation 302 of Fig. 4 and page 11, lines 23-25; operations 303 and 304 of Fig. 4 and page 11 line 26-page 12, line 3; page 12, lines 20-23; and operations 309-311 of Fig. 4 and page 13, lines 18-27).

Independent claim 12 is directed to: "A mobile communications system" (*see e.g.* Fig. 2; and page 7, lines 13-15). The system comprises: "a radio network controller" (*see e.g.* RNC 4 of

[3] Describing: U-plane controller 42c sets a status information table which is transmitted to and stored by C-plane controller 41b to which it belongs.

[4] Describing: C-plane controllers can refer to another C-plane controller to obtain status information of a U-plane controller other than a U-plane controller that is subordinate to the C-plane controller.

Fig. 2; and page 7, lines 16-24). The radio network controller comprises: "a plurality of control plane controllers" (*see e.g.* CPR 41a, 41b of Fig 2; and page 7, lines 16-24); "a plurality of user plane controllers separate from said plurality of control plane controllers" (*see e.g.* UPE 42a-42c of Fig. 2; and page 7, lines 16-24); "wherein each user plane controller is logically subordinate to only one of said control plane controllers" (*see e.g.* page 10, lines 1-21). The mobile communication system further comprises: "means for effecting transfer of status information between a user plane controller and any of said control plane controllers notwithstanding that each user plane controller is logically subordinate to only one of said control plane controllers" (*see e.g.* operation 301 of Fig. 4 and page 11, lines 10-14; operation 302 of Fig. 4 and page 11, lines 23-25; operations 303 and 304 of Fig. 4 and page 11 line 26-page 12, line 3; page 12, lines 20-23; and operations 309-311 of Fig. 4 and page 13, lines 18-27).

Independent claim 23 is directed to: "A mobile communications system" (*see e.g.* Fig. 2; and page 7, lies 13-15). The system comprises: "a radio network controller" (*see e.g.* RNC 4 of Fig. 2; and page 7, lines 16-24). The radio network controller comprises: "a plurality of control plane controllers for storing status information in a memory" (*see e.g.* CPR 41a, 41b of Fig 2; and page 7, lines 16-24; and page 11, lines 10-14 and 23-25); and "a user plane controller for reporting status information of said user plane controller to said plurality of control plane controllers" (*see e.g.* UPE 42a-42c of Fig. 2; page 7, lines 16-24; and page 11, lines 10-14); "wherein said plurality of control plane controllers comprises at least a first control plane controller and a second control plane controller and said user plane controller is logically subordinate only said first control plane controller" (*see e.g.* page 10, lines 1-21). The mobile

communication system further comprises: "means for effecting transfer status information between the user plane controller and said second control plane controller notwithstanding that the user plane controllers logically subordinate to only said first control plane controller" (*see e.g.* operation 301 of Fig. 4 and page 11, lines 10-14; operation 302 of Fig. 4 and page 11, lines 23-25; operations 303 and 304 of Fig. 4 and page 11 line 26-page 12, line 3; page 12, lines 20-23; and operations 309-311 of Fig. 4 and page 13, lines 18-27).

Appellant notes that the foregoing discussion, which includes many specificities in relation to exemplary embodiments, is meant to be illustrative in nature and is not intended to limit the claims.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed, including the statute applied, the claims subject to each rejection and the references relied upon by the examiner are as follows: Claims 1, 2, 5, 6, 8, 11-13, 16, 17, 19, 20, and 23-26 are rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Sayers (U.S. Patent 6,539,237). Claims 4, 7, 15, and 18 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Sayers.

VII. ARGUMENT

Appellant submits that the rejections of claims 1, 2, 4-8, 11-13, 15-20, and 23-26 on appeal are improper and reversal of the grounds of rejection is respectfully requested.

INDEPENDENT CLAIMS 1, 11, 12, AND 23

Independent claims 1, 11, 12, and 23 are rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Sayers (U.S. Patent 6,539,237).

Independent claim 1 recites: "A method of controlling a radio network controller of a radio access network, wherein the radio network controller comprises a plurality of control plane controllers and a plurality of user plane controllers, the method comprising: ... effecting transfer of status information between a user plane controller and a control plane controller other than the control plane controller to which the user plane controller is logically subordinate notwithstanding that the user plane controller is logically subordinate to another of said control plane controllers." Independent claims 11, 12 and 23 recite analogous features.

In other words, a radio access network includes a radio network controller which comprises control plane controllers and user plane controllers. A user plane controller is logically subordinate to only one of the control plane controllers. However, the method comprises effecting a transfer of information between a user plane controller and a control plane controller *other than* the control plane controller to which the user plane controller is subordinate.

As clearly described in the specification (*see e.g.* page 2, lines 5-9), and as would have been understood by one of skill in the art[5], a control plane (C-plane) controller is a physical integration of a function of controlling a C-plane which is a protocol for transferring control signals; and a user plane (U-plane) controller is a physical integration of a function of controlling a U-plane which is a protocol for transferring user data related to user equipment.

Sayers is generally directed to a GSM system in which a Base Station Subsystem (BSS) 5 is composed of at least one Base Station Controller (BSC) 16, and a number of Base Transceiver Stations (BTSs) 12 (Fig. 1, col. 3, lines 12-21).

As shown in Fig. 1 of Sayers, a communication system includes a Network Subsystem NSS 6 including a mobile services switching center MSC 17. A Base Station Subsystem BSS 5 is connected to the NSS and includes at least one Base Station Controller BSC 16 and a number of Base Transceiver Stations BTSs 12, which are in radio communication with mobile stations 4.

NSS 6 and MSC 17. The NSS includes the MSC 17 which "provides the functions required to switch calls to/from the mobile stations 4 and the fixed public networks 8 (including PSTN and ISDN)" (Sayers, col. 9, lines 11-15). Thus, the NSS of the GSM system of Sayers

[5] E.g. *Newton's Telecom Dictionary*, 19th edition, Harry Newton, CMP Books, San Francisco, CA, ©2003, defines a C Plane as : "The control plane within the ISDN protocol architecture; these protocols provide the transfer of information for the control of user connections and the allocation/deallocation of network resources". *Newton's* defines a U Plane as: "The user plane within the ISDN protocol architecture; these protocols are for the transfer of information between user applications, such as digitized voice, video and data".

may be comparable to the Core Network (CN) of a UTRAN system as described in the present specification (*see e.g.* specification, page 1, Fig. 1).

BSS 5, BSC 16, and BTSs 12. The BSS 5 includes a controller BSC 16 and stations BTSs 12 and is connected to the NSS (Sayers, col. 8, lines 37-44). BTSs 12 define radio cell boundaries and handle radio interfaces with the mobile stations (col. 8, lines 40-44). The BSC 16 manages the radio resources of one or more BTSs and "controls the radio network, including allocation of radio time slots to mobile stations 4, release of resources, interpretation of measurement results and control of radio interface handovers" (col. 9, lines 4-10).

Thus, the BSS 5, BSC 16, and BTSs 12 of the GSM system of Sayers are comparable to the RAN , RNCs, and Node Bs of a UTRAN system as described in the present specification (*see e.g.* specification page 1, line 15 to page 2, line 8).

Regarding the claimed control plane controller and user plane controller, the Examiner alleges that these features are taught by the NSS and the BSS, respectively, of Sayers.

Appellant respectfully submits that the Examiner is mistaken. The NSS and BSS of Sayers may be considered to be comparable to the CN and the RAN described in the present specification, respectively. The NSS is *not* comprised in a radio network controller of a radio access network, and *does not* control any C-plane or control signals. The BSS is *not* comprised in a radio network controller of a radio access network. Indeed, the BSS *is* a radio access network. And, the BSS *does not control* user data related to user equipment.

Therefore, Appellant submits that the NSS does not teach or suggest the claimed control plane controller and the BSS does not teach or suggest the claimed user plane controller. Further,

Appellant submits that as Sayers is directed to a GSM (Global System for Mobile Communications) system, no portion of Sayers teaches or suggests the claimed features relating to the claimed control plane controller and user plane controller.

At page 13 of the final Office Action, the Examiner alleges that these arguments are not commensurate with the scope of the claims. In response, Appellant submits that, as evidenced by the plain language of claim 1, provided above, claim 1 indeed specifically recites that the radio network controller is "of a radio access network", that the radio network controller "comprises a plurality of control plane controllers and a plurality of user plane controllers", and "effecting transfer of status information between a user plane controller and a control plane controller other than the control plane controller to which the user plane controller is logically subordinate notwithstanding that the user plane controller is logically subordinate to another of said control plane controllers." Additionally, Appellant submits, as noted above, that the terms control plane controller and user plane controller are both known to those of skill in the art at the time of the present Application and clearly described in the specification.

Additionally, Appellant submits that the claims clearly comply with MPEP § 2173.05 which requires that "the meaning of every term used in a claim should be apparent from the prior art or from the specification and drawings at the time the application is filed." Further, Appellant submits that MPEP §2173.05 further specifies that: "[d]uring patent examination, the pending claims must be given the broadest reasonable interpretation *consistent with the specification*"; and "[w]hen the specification states the meaning that a term in the claim is intended to have, *the*

claim is examined using that meaning, in order to achieve a complete exploration of the applicant's invention and its relation to the prior art."

In view of at least the above discussion, Appellant submits that Sayers fails to anticipate the features as recited in independent claims 1, 11, 12, and 23.

CLAIMS 2, 4-8, 13, 15-20, and 24-26

Appellant submits that claims 2, 4-8, 13, 15-20, and 24-26 are patentable at least by virtue of their dependencies.

Therefore, as discussed hereinabove, all of the claims of the present invention are novel and non-obvious over the art cited by the Examiner. Reversal of the grounds of rejection is respectfully requested

VIII. CONCLUSION

The statutory fee (37 C.F.R. §41.37(a) and 1.17(c)) is being remitted. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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Date: January 24, 2011

CLAIMS APPENDIX

CLAIMS 1, 2, 4-8, 11-13, 15-20, and 23-26 ON APPEAL:

1. A method of controlling a radio network controller of a radio access network, wherein the radio network controller comprises a plurality of control plane controllers and a plurality of user plane controllers, the method comprising:

implementing the plurality of user control plane controllers separate from said plurality of control plane controllers;

logically subordinating each user plane controller to only one control plane controller;

effecting transfer of status information between a user plane controller and a control plane controller other than the control plane controller to which the user plane controller is logically subordinate notwithstanding that the user plane controller is logically subordinate to another of said control plane controllers.

2. The method of controlling said radio network controller according to claim 1, further comprising physically separating said plurality of user plane controllers from said plurality of control plane controllers.

4. The method of controlling said radio network controller according to claim 1, further comprising, including with said status information bandwidth information of a channel directed to the outside from said plurality of user plane controllers.

5. The method of said radio network controller according to claim 1, further comprising, including with said status information alarm information detected in said plurality of user plane controllers.

6. The method of controlling said radio network controller according to claim 1, further comprising, reporting from said plurality of user plane controllers said status information to one of said control plane controller upon receipt of a request for transmitting said status information from said control plane controller.

7. The method of controlling said radio network controller according to claim 1, further comprising, reporting from said plurality of user plane controllers said status information to one of said control plane controller at a fixed period.

8. The method of controlling said radio network controller according to claim 1, further comprising, reporting from said plurality of user plane controllers said status information to one of said control plane controller if a change is found in said status information.

11. A method of controlling a radio network controller of a radio access network, wherein the radio network controller comprises at least a first of control plane controller and a second control plane controller and a user plane controller, the method comprising:

implementing said user plane controller separate from said first and second control plane controllers;

logically subordinating said user plane controller to only said first control plane controller;

effecting transfer of status information between the user plane controller and said second control plane controller notwithstanding that the user plane controller is logically subordinate to only said first control plane controller.

12. A mobile communications system comprising:

a radio network controller comprising:

a plurality of control plane controllers;

a plurality of user plane controllers separate from said plurality of control plane controllers;

wherein each user plane controller is logically subordinate to only one of said control plane controllers; and

said mobile communication system further comprising:

means for effecting transfer of status information between a user plane controller and any of said control plane controllers notwithstanding that each user plane controller is logically subordinate to only one of said control plane controllers.

13. The mobile communications system according to claim 12,

wherein said plurality of user plane controllers are physically separated from said plurality of control plane controllers.

15. The mobile communications system according to claim 12,

wherein said status information includes bandwidth information of a channel directed to the outside from said plurality of user plane controllers.

16. The mobile communications system according to claim 12,

wherein said status information includes alarm information detected in said plurality of user plane controllers.

17. The mobile communications system according to claim 12,

wherein said plurality of user plane controllers further includes means for reporting said status information to one of said control plane controllers upon receipt of a request for transmitting said status information from said control plane controller.

18. The mobile communications system according to claim 12,

wherein said plurality of user plane controllers further includes means for reporting said status information to one of said control plane controller at a fixed period.

19. The mobile communications system according to claim 12,

wherein said plurality of user plane controllers further includes means for reporting said status information to one of said control plane controllers if a change is found in said status information.

20. The mobile communications system according to claim 12, further comprising:

at least one user equipment.

23. A mobile communications system comprising:

a radio network controller comprising:

a plurality of control plane controllers for storing status information in a memory; and

a user plane controller for reporting status information of said user plane controller to said plurality of control plane controllers;

wherein said plurality of control plane controllers comprises at least a first control plane controller and a second control plane controller and said user plane controller is logically subordinate only said first control plane controller; and

said mobile communication system further comprises:

means for effecting transfer status information between the user plane controller and said second control plane controller notwithstanding that the user plane controllers logically subordinate to only said first control plane controller.

24. The mobile communications system according to claim 23, comprising:

at least one user equipment.

25. The radio access network according to claim 12, including means for operating said plurality of control plane controllers when a user equipment located in an area of a first radio base station having a radio link established between said first radio base station and a first user plane controller subordinate to one of said control plane controllers moves to an area of a second radio base station, said second radio base station belonging to a second user plane controller subordinate to another of said control plane controllers, to refer to this another control plane controller for status information of said second user plane controller , and determining based on the status information of said second user plane controller that is received from this other control plane controller whether or not a radio link can be added at said second user plane controller.

26. The radio access network according to claim 25, wherein said one of said control plane controllers includes means for instructing said second user plane controller through said first user plane controller to add a radio link between said second user plane controller and said

second radio base station when said one of said control plane controllers determines that a radio link can be added at said second user plane controller.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.